



Leica M844 F40

Redefining the premium class in Ophthalmic Surgery

Living up to Life

Leica
MICROSYSTEMS



Leica

A close-up, artistic photograph of a surgical microscope. The top portion shows the dark, ribbed handle of the microscope. Below it, a bright, circular lens or light source is visible, creating a strong glow and lens flare effect that dominates the lower half of the image. The background is dark, making the illuminated parts stand out.

M844 F40

See more of what you need to see.

Combining a higher level of optical quality than ever before with the best technologies of today's surgical microscopes, the Leica M844 truly redefines the premium class of ophthalmic surgical microscopes.

The Leica M844 is the microscope you must see!



Leica Design by Christophe Apothéloz



Uniquely Leica



Crisp and sharp!

Leica's APO OptiChrome™ M844 Optics provide the highest resolution to see even the smallest anatomical details.



Same perfect view, same perfect light!

Leica's QuadZoom™ gives both the surgeon and assistant 100% of the illumination and the same magnification.



Safety for the patient, fatigue-free viewing for the surgeon!

Leica's exclusive direct illumination system offers the best clarity, contrast and colour at safe low-light levels.

APO OptiChrome™ Changing microsurgery forever



Leica introduces the original APO OptiChrome™

Providing an extraordinary degree of light transmission for maximum detail recognition is critical for all types of ophthalmic microsurgery. For the posterior segment surgeon, where availability of light is limited, a high degree of light transmission is essential. For refractive and anterior segment surgery, low light is always better for the patient.

Expect only the highest standards in optics from the Leica M844

- Sharper and crisper image
- Higher light transmission
- Natural colour fidelity
- Outstanding depth of focus
- Higher contrast

QuadZoom™ Uniquely Leica



Efficient illumination

By utilising four separate beam paths through the same common zoom system, the Leica QuadZoom™ delivers 100% APO OptiChrome™ stereovision and 100% illumination for both the main surgeon and the assistant.

2 × 2 views always synchronized

By putting both pairs of beam paths through one common zoom system, as the surgeon changes magnification, the assistant's view is perfectly synchronized with the surgeon's view.

See more with less light

OttoFlex™ II See more with less light

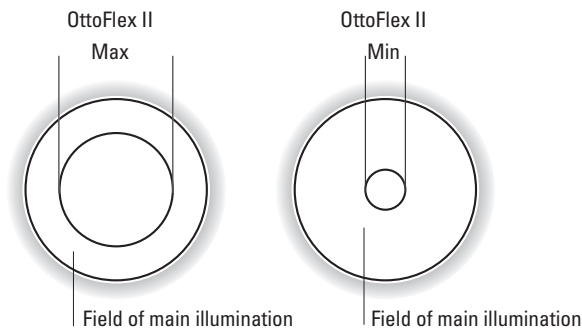


Low light ensures fatigue-free viewing and patient safety

With two bulbs and two prisms, the Leica M844 creates true three-dimensional illumination. Using a focused, direct illumination system instead of fiber optics, the Leica M844 takes a ray of light and projects a crisp, sharp and homogeneous image even at very low light levels. Proven for over 25 years, this combination of direct halogen illumination and highly efficient optical transmission ensures patient safety and fatigue-free viewing for the surgeon.

See things in a different light

OttoFlex™ II, an integrated independent illumination system, gives a brilliant red reflex even in low light conditions and enhances the view's contrast. Difficult anatomical conditions, such as small pupils or very advanced cataracts are more easily visualised through this unique system. Continuously adjustable from 4mm to 35mm diameter, OttoFlex™ II places the brightness where the surgeon needs it most.



Take control

Intuitive control unit

The touch panel offers intuitive control of all the Leica M844's functions. The control unit's operation is simple and straightforward with many innovative features.

Everyone is an individual

Customised start settings, such as illumination and magnification levels, are easily programmed into the control unit for up to 30 different users. By having a surgeon's individual settings available at the touch of a button, the microscope is instantly ready for the next procedure and/or surgeon and the workflow of the surgical team is faster and more efficient.

StepCycle™ for greater efficiency

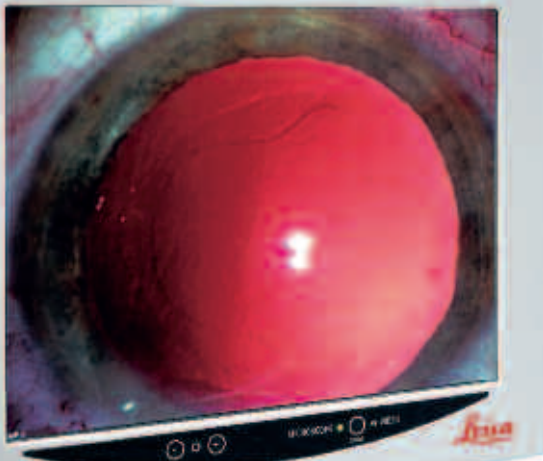
Different levels of light, focus and zoom can optimize each phase of surgery. Making these adjustments today takes surgeons' precious time. The automatic StepCycle™ function enables the surgeon to program predefined settings that are used throughout typical surgical procedures. After simple programming, a touch of a button on the foot pedal will activate the microscope's predefined settings, step by step, during the procedure.

Real-time video

With one touch of a button the control unit's display becomes a general use, real-time video monitor, which allows an immediate and convenient view of the current surgical procedure for the operating room staff. For general video viewing there is no need for an extra video cart.



Leica Two-in-One display control unit
mode (above) and video mode (below)



Easy to use from start to finish



Leica F40 space saving stand with extended net reach

The Leica M844 F40 has the smallest footprint and the longest net reach of any ophthalmic surgical microscope on the market. Due to this design, the microscope is easy to position anywhere around the operating table. Four large, fully pivoting casters and an easy to grasp handlebar make the microscope effortless to transport into and out of position.

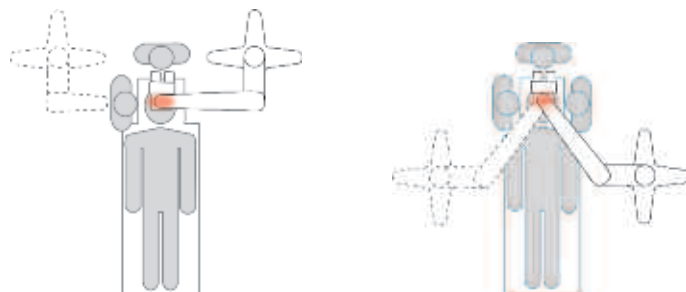
Auto Reset and it's ready to go

When the surgeon pushes the swingarm up after each procedure, all the microscope functions automatically reset and the microscope is ready for the next case. A real time saver for the operating room staff and peace of mind for the surgeon.

Focus Lock – for quick movement in and out of the operative site

Focus Lock allows the surgeon to move the microscope in and out of position laterally. With the microscope staying on the same focus plane, the surgeon does not have to waste precious time refocusing to continue his procedure.

Positioning in the Operating Room
The extra long reach of the Leica M844 F40 allows flexible positioning, even in small rooms with many pieces of equipment. Whether on the side of the patient or over the surgeon's shoulder, the M844 F40 leaves a lot of space around the operating table.





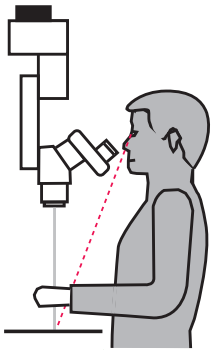
Side-to-side change

Easy side-to-side quick change for the assistant

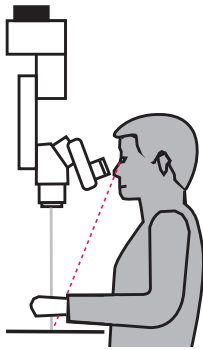
Changing the assistant's position from one side to the other can be done quickly and easily without removing any parts. Simply lift the main surgeon's binoculars and rotate the assistant's bridge. No parts to drop or damage!

The UltraLow™ II for ideal eyepiece-to-field distance

The UltraLow™ II binocular eyepiece tubes drop lower than conventional binoculars, which compensates for stacking auxiliary accessories on the optics, such as inverters or laser shutters. The surgeon now works in comfort.



Eyepiece to field distance "XL"



Eyepiece to field distance "S"

ErgonOptics™ for individual comfort and concentration

Every surgery requires the highest level of concentration from the surgeon and his or her surgical team. The physical comfort of the surgeon is critical to this concentration. Leica provides a large selection of binoculars and three different objective lens types to meet each individual surgeon's physical requirements. No other microscope system offers this range of surgeon and assistant binoculars and objective lenses.



Binocular Tube
Perfect ergonomics in every situation.

Widest range of ergonomics to ensure comfort



Leica M844 controlling
Oculus SDI/BIOM system



Rotatable handles

Independent choice of wide-angle observation accessories

The Leica M844 is designed to accept the integration of wide-angle observation systems or stereo image inverters. In addition, when integrating the Oculus SDI/BIOM system, the surgeon can control its functions through the Leica M844's 16-function foot pedal therefore the system can be fully controlled by a single foot pedal instead of two.

Additional microscope functions at your fingertips

All-brake release and new Focus Lock multi-function are conveniently located on the rotatable handles. If desired, additional functions can be programmed to meet a wide variety of individual surgeon's preferences.

Wide choice of foot pedals

Leica offers three foot pedal styles to meet the needs of all users. XY, zoom, focus and illumination can be controlled from either the 12-function cross or 12-function long pedals. The 16-function cross pedal gives the user four additional options for individual tasks, such as inverter usage, StepCycle™ or room light function.



Wide selection of foot pedals to fulfill any ergonomic need

Flexibility for individual needs



Leica Zoom Video Adapter
on integrated video port

Video port now stays in place

The video port is now integrated into the back of the optics, which means the video camera is always correctly configured and ready to use. The need to switch the video camera from side to side is no longer necessary. A real convenience for the operating room staff. And, having a dedicated video port protects the video adapter and camera from possible damage.

Leica Zoom Video Adapter

The Leica Zoom Video Adapter has a 3× optical zoom and sterile fine focus adjustment. Individual magnification adjustment of the video image is independent of the microscope zoom, which gives the surgeon full freedom to adjust the monitor image for the surgical team without affecting the surgeon's view.

Leica precision operating slit lamp

The Leica surgical slit lamp, with world-renowned Swiss precision, provides full slit functions. The slit beam is adjustable in width and length and can be scanned over the cornea $\pm 23^\circ$ from any position via the foot pedal. A retractable blue filter and integrated quick change lamp add to its functionality.

Laser adaptability

Most commercially available laser shutters and laser filters can be easily integrated with the Leica M844 system.



Leica precision slit lamp

Training for the future

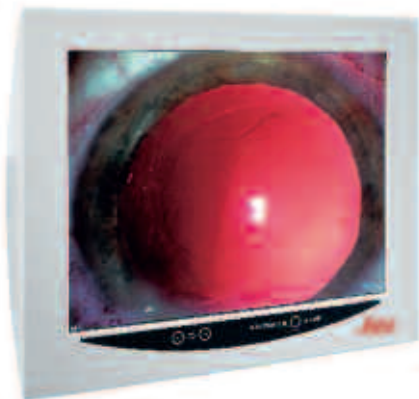


QuadZoom™ – The ultimate view for everyone

Proper surgical training requires everyone to see the same view. The Leica M844 optical system delivers the same magnification and stereo view simultaneously for both the teacher and the student. A focus override knob on the assistant bridge allows individual fine-tuning separately from the main surgeon.

Two-in-One control unit and video screen

The Leica M844 is equipped with a unique control unit that can be switched to a general use, real-time video monitor during surgery. With camera, camera control unit, and monitor all mounted on the Leica F40 floor stand, there is no need for a separate video cart. The entire surgical team can have the benefit of video for every case. If there is a need for extremely high quality documentation, the staff may choose to connect an additional video monitor to the system.



Leica Two-in-One display control unit in video mode

Double wing = three stereo observers

The unique Leica double wing assistant bridge enables the teacher to have two students in full stereo view simultaneously at the same magnification. With the newly integrated video display, all three along with the operating room staff and additional students can observe and learn via the video monitor.

Documentation for education

All the latest documentation options are available with the Leica M844. The Leica MDRS4 digital recording system, as well as many other commercially available digital video systems can be interfaced. Even classic 35mm photography can still be done with the Leica M844. All this to ensure ideal documentation capabilities for training the surgical teams of tomorrow.



Leica M844 with double wing assistant bridge

| | |
|---------------------------|--|
| Electrical data | |
| Power supply | 90–265VAC, 50/60Hz |
| Power consumption | 400 VA |
| Classification | Class 1 |
| Type | Type B |
| Microscope | |
| Magnification changer | APO-Zoom 6:1, motorized, with 4 separate beam paths |
| Magnification | 3.5× – 21× (WD 175mm, 10× eyepieces) |
| Optic | APO-chromatic corrected optics |
| Field diameter | 7mm – 80mm |
| Working distance | 175mm, 200mm and 225mm |
| Focus range | 54mm, motorized, with automatic reset |
| Eyepieces | Wide field eyepieces for eyeglass wearers (8.33×, 10×, 12.5×) Dioptric setting +/-5 with adjustable eye cup |
| Objectives | Leica OptiChrome™, WD 175mm, APO Leica OptiChrome™, WD 200mm, APO Leica OptiChrome™, WD 225mm, APO, (WD = working distance) |
| Illumination | |
| Quick-change lamp mount | With two 12V / 50W halogen lamps |
| Filters | IR-barrier filter, UV-barrier filter, two built-in filter holders for optional filters |
| Stand | |
| Type | Floor stand with 4 electromagnetic brakes Alternatives: Ceiling Mount Leica M844 C40 or Telescope Mount Leica M844 CT40 |
| Balancing | Continuously adjustable gas spring |
| Maximum load | 12.2kg accessories to the microscope |
| Maximum reach | 1492mm |
| Vertical range | 846mm |
| Minimum transport height | 1949mm |
| Weight without microscope | Approx. 330kg |
| XY-unit | Motorized, movement range 50 × 50mm, with automatic reset |
| Tilt mechanism | Motorized, +15°/-50° |
| Hand switch/Foot pedals | 16- or 12-function foot pedal with controls arranged longitudinally or transversely 12-function hand switch |
| Control unit | Two-in-one display, control and video display in one. The latest electronic control for the continuous monitoring of all motor functions and the light intensity. Data shown by means of LCD, with adjustable contrast and brightness. Operation by modern touch-panel control. ISUS™ Intelligent SetUp System, menu selection based on unique software for user-specific configuration, with built-in electronic auto-diagnosis and user support. Open architecture for future software developments. |

Technical Data

Leica M844 F40

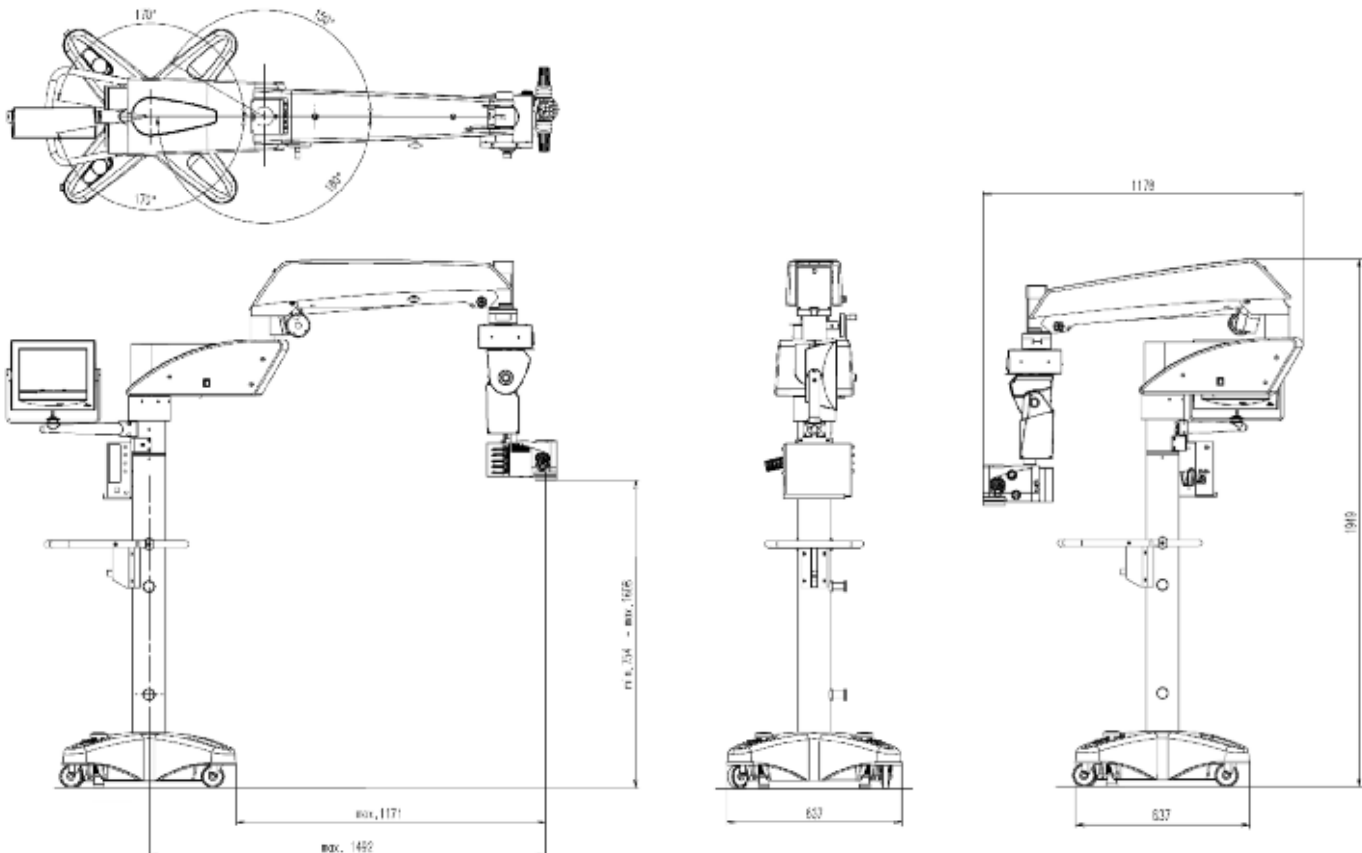
Accessories

| | |
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| 0° assistant attachment | 100% Stereopsis at same magnification, including documentation interface, rotatable from side to side (temporal approach), built-in fine focusing, rotatable ring for binocular tube |
| Double wing | For three observers simultaneously |
| TV/Photo | Leica 2D video systems, Leica MDRS4 digital recording system, Leica Zoom Video Adapter f = 35–100mm Photo/TV Dual-attachment, f = 60/85/107mm for TV, f = 250/350mm for 35mm camera, TV tube f = 107mm Phototube f = 250/350mm |
| Wide-angle observation | BIOM, EIBOS |
| Inverters | AVI, SDI, OIVSL, ROLS |
| Laser | Can be fitted, adapters available from laser suppliers |
| Slit lamp | Leica, motorized travel +/-23°, Slit width 0.01..15mm, length 3..15mm, Rotatable 180°, quick lamp-changer |
| Asepsis | Sterilizable components for all drive knobs, commercially available drapes |

Conformity

- Medical devices directive 93/42/EEC
Classification: Class I, in compliance with appendix IX, rule 1, with reference to rules 12 of the directive.
- Medical electrical equipment, Part 1: General requirements for safety IEC 60601-1; EN 60601-1; UL60601-1; CAN/CSA-C22.2 NO. 601.1-M90
- Electromagnetic compatibility IEC 60601-1-2; EN 60601-1-2

The Surgical Division, within Leica Microsystems (Schweiz) AG, has the management system certificate for the international standards ISO 9001:2000 / ISO 13485:2003 and ISO 14001:2004 relating to quality management, quality assurance and environmental management.



“With the user, for the user”

Leica Microsystems

Leica Microsystems operates globally in four divisions, where we rank with the market leaders.

• Life Science Division

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

• Industry Division

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

• Biosystems Division

The Leica Microsystems Biosystems Division brings histopathology labs and researchers the highest-quality, most comprehensive product range. From patient to pathologist, the range includes the ideal product for each histology step and high-productivity workflow solutions for the entire lab. With complete histology systems featuring innovative automation and Novocastra™ reagents, Leica Microsystems creates better patient care through rapid turnaround, diagnostic confidence, and close customer collaboration.

• Surgical Division

The Leica Microsystems Surgical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

The statement by Ernst Leitz in 1907, “with the user, for the user,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

Active worldwide

| | | | |
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and representatives in more than 100 countries

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